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10/647,272	08/26/2003	Satoshi Seki	03500.017522.	2632

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EXAMINER
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MOUTTET, BLAISE L

ART UNIT	PAPER NUMBER
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2853

DATE MAILED: 11/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.



## Office Action Summary

Application No.

10/647,272

Applicant(s)

SEKI ET AL.

Examiner

Blaise L Mouttet

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 11-14 is/are rejected.
- 7) ☒ Claim(s) 6-10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 August 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 10/31/2003.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.



**DETAILED ACTION**

***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

***Information Disclosure Statement***

2. The IDS submitted October 31, 2003 has been considered by the examiner.

***Drawings***

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference characters not mentioned in the description: "32" as shown in figure 1 and "28" as shown in figure 2.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign mentioned in the description: "S916" on page 27, line 1 (the applicant probably means to refer to S906 shown in figure 9).

Corrected drawing sheets in compliance with 37 CFR 1.121(d) or appropriate amendments to the specification are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct



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any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

4. The disclosure is objected to because of the following informalities:

On page 4, line 12 "...inks is.." should more properly read --"...inks are..--.

On page 24, line 22 "...to more reduce.." should more properly read --"...to further reduce..--.

Appropriate correction is required.

### ***Claim Objections***

5. In claim 4, lines 2-3 "...cap means.." should read --"...cap member..-- in light of the antecedent basis.

In claim 6, lines 3-4 "...the amount inks.." should more properly read --"...the amount of ink..--.

In claims 6-10 "inks" should more properly read --ink-- since a plurality of ink is typically not denoted in plural form.

In claim 6, line 6 "a predetermined period" should read --the predetermined period-- since this limitation has antecedent basis from claim 1.

Appropriate correction is required.



***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 4, 5 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Hanabusa et al. US 5,459,496.

Hanabusa et al. discloses, regarding claims 1 and 13, an inkjet recording apparatus (figure 2) and recovery control method for executing recording by ejecting inks onto a recording medium based on recording data using a recording head for ejecting inks from ejection ports, comprising:

recovery means (equivalent to suction pump 53 and wiping blade 59) for executing recovery processing for maintaining the ink ejection capability of the recording head (column 6, line 30 – column 7, line 2);

a cap member (51) for capping the ejection ports of the recording head (column 6, lines 30-37);

capping means (equivalent to motor 53 and cam 63 for driving the cap 51) for moving the cap member (51) in a direction where the cap member (51) approaches the recording head and in a direction where the cap member is separated from the recording head (column 6, lines 32-35, column 7, lines 1-2);

measurement means (equivalent to timer 1003 for performing S204 in figure 23A) for measuring a cap-open period that is an elapsed period of a cap-open state in



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which the ejection ports are not capped with the cap member (51) (column 25, lines 48-50); and

control means (equivalent to MPU 1000 for performing S207 in figure 23A) for executing the recovery processing by the recovery means when the cap-open period cumulated by cumulation means (equivalent to the portion of the processor performing the counting as described in column 24, lines 42-53) exceeds a predetermined period (T seconds).

Regarding claim 4, the capping means can move the capping means to a capping state in which the ejection ports are capped with the cap member (51) and to a cap-open state in which the ejection ports are not capped as indicated by column 6, lines 32-35.

Regarding claim 5, the recovery processing executed by the recovery means is taught to include suction recovery processing for discharging inks from the ejection ports by suction (column 25, lines 1-3).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of



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the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 1-4 and 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawakami et al. US 6,234,604 in view of Terasawa et al. US 4,970,534.

Kawakami et al. discloses, regarding claims 1 and 13, an inkjet recording apparatus (figure 1) and recovery control method for executing recording by ejecting inks onto a recording medium based on recording data using a recording head for ejecting inks from ejection ports, comprising:

recovery means (equivalent to device for performing flushing of recording head) for executing recovery processing for maintaining the ink ejection capability of the recording head (column 1, lines 45-65, column 4, lines 37-46);

a cap member (17) for capping the ejection ports of the recording head (column 5, lines 5-11);

measurement means (equivalent to timer 26) for measuring a cap-open period that is an elapsed period of a cap-open state in which the ejection ports are not capped with the cap member (17) (column 4, lines 30-36); and



control means (equivalent to controller for performing flushing of recording head) for executing the recovery processing (figure 6, step e) by the recovery means when the cap-open period cumulated by cumulation means (the counting by the timer 26) exceeds a predetermined period (figure 6, step c).

Regarding claims 2 and 14, the control means resets the cumulated period when the recovery processing is executed while the cap open period is cumulated (figure 6, step f).

Regarding claim 3, the measurement means uses the elapsed period during which the recording (printing) is executed to the recording medium as the cap open period (column 4, lines 30-36).

Regarding claim 4, the cap member is moved from a capping state capping the ejection ports to a cap open state in which the ejection ports are not capped as indicated by column 4, lines 5-7 and column 4, lines 30-32.

Regarding claim 11, a plurality of cap members (15, 16) make up cap member (17) (column 4, lines 5-8), and the cap open period is measured and cumulated by the measurement means for both (i.e. each) cap members (column 4, lines 30-36).

Regarding claim 12, a plurality of the recording heads (8, 9) are used in correspondence to the colors (black or MCY) of the inks to be recorded (column 3, lines 57-62), and the cap open period is measured and cumulated for both (i.e. each) of the ink colors (column 4, lines 30-36).

Kawakami et al. fails to disclose, regarding claims 1, 4 and 13, capping means for moving the cap member in a direction where the cap member approaches the



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recording head and in a direction where the cap member separates from the recording head.

Terasawa et al. discloses capping means (drive gear and cams) for moving a cap member in a direction where the cap member approaches a recording head and in a direction where the cap member separates from the recording head (abstract).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to include capping means as disclosed by Terasawa et al. to move the cap member of Kawakami et al.

The motivation for doing so would have been to provide good sealing force for the cap as described by column 2, lines 53-62 of Terasawa et al.

#### ***Additional Prior art***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Murakami et al. EP 1 031 425 A2 discloses an inkjet recording head recovery process utilizing both a printing period (S114) and an amount of ink discharged (S113) to determine whether a recovery operation (S116) is performed. Murakami et al. fails to disclose that the printing period corresponds to a cap open period or determining whether the discharged amount of ink is larger than a predetermined amount based upon the cumulated period being longer than a predetermined period.



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***Allowable Subject Matter***

9. Claim 6-10 are objected to as being dependent upon a rejected base claim and as noted above, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and provided the minor objections are overcome.

***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Blaise Mouttet who may be reached at telephone number (571) 272-2150. The examiner can normally be reached on Monday-Friday from 8:30 a.m. to 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier, Art Unit 2853, can be reached at (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Blaise Mouttet November 22, 2004

*Blaise Mouttet* 11/22/2004